RIAC

Reliability Information Analysis Center

Reliability Information Analysis Center (RIAC) scientists, engineers, and information specialists collectively represent the complete range of assurance technologies required to support the US Department of Defense (DoD) Program Offices in developing and deploying battlefield technology. As a DoD Information Analysis Center (IAC), RIAC is the leader and center of excellence in Reliability, Maintainability, Quality, Supportability, and Interoperability (RMQSI). Our specialists provide real-time, world-class expertise and serve as our customers' extended RMQSI staff.

LEVERAGING THE RIAC KNOWLEDGE BASE

RIAC engineers have an average 15 years of experience providing technical solutions to customers, including data and information, analyses, analytical tools, training, and technical assistance. Our specialists re-use solutions and draw on an extensive knowledge base; save rework by identifying relevant advances; and shorten development time through skilled analysis, synthesis, and dissemination. The following examples illustrate the benefits realized by RIAC customers:

- Decreased component-removal rates by 10%–15%
- Improved performance and reliability by 100%–200%
- Expanded system reliability from a 27-hr Mean Time Between Failures (MTBF) to a 40-hr MTBF
- Increased availability by 12% and annual savings by $83M by implementing preventative-maintenance analysis

- Increased Mean Time Between Maintenance Actions (MTBMA) by 20 hr
- Lowered cost by reducing Environmental Stress Screening (ESS) test time by 20 hr

CONSULTATIONS & ASSESSMENTS

RIAC's technical staff has served as an independent, unbiased source of objectivity to DoD for more than 35 years. Organizations that have relatively mature reliability programs hire RIAC to work on specific problems or issues. Organizations with no formal reliability program call on RIAC to provide a wider range of support, beginning with an assessment of the organization's requirements. Routine RMQSI activities include the following:

ACQUISITION

- Reliability Program Planning & Development
- Source Evaluation & Selection
- Requirements Definition & Assessment
- Design Criteria Evaluation & Review
- Reliability & Maintainability (R&M) Analysis
- Risk Management

DESIGN AND DEVELOPMENT

- ESS Planning
- Failure Tracking & Analysis
- Variability Reduction
- Reliability Modeling and Prediction
- RMQSI Testing
- Design of Trade-off Analysis
- Application & Use of Commercial-Off-The-Shelf (COTS)/Non-Developmental Item (NDI) in Military Environments
- Total Ownership Cost Reduction

SUSTAINMENT

- Reliability Program Assessment & Management
- Integrated Logistics Planning & Improvement
- Systems & Equipment Lifetime Extension
- Component Obsolescence Planning
- Operational Effectiveness Evaluation
- Parts Control & Qualification Programs
- Failure and Root-Cause Analysis
- Reliability-Centered Maintenance (RCM)

RELIABILITY DATA, PUBLICATIONS, AND SOFTWARE

RIAC offers an extensive product line of more than 50 publications, software tools, models, analytical tools, and databases. Our publications help managers to achieve a high-level understanding of RMQSI and the bottom line, design engineers to design trade-off analyses, and RMQSI practitioners to implement practical applications. RIAC databases and software provide the tools required to make accurate, informed decisions and perform program activities with efficiency. RIAC's software sets a new standard in reliability prediction that includes component failure-rate models, failure-rate databases, and a software reliability model.

TRAINING

Our reliability training programs provide instruction to more than 500 students each year, including managers, designers, and RMQSI specialists. Three open-registration courses are offered quarterly, custom on-site presentations can be tailored to a customer's requirements, and, for self-paced learning, RIAC offers a distance learning option.

SPONSORED INFORMATION EXCHANGES

RIAC cooperates and collaborates with other RMQSI organizations to facilitate technology transfer and re-use of information. RIAC's networking with the reliability community allows it to better serve its users. This networking includes collaborating with other IACs on mission-related RMQSI topics such as DACS, AMMTIAC, and SENSIAC.

FREE SERVICES

RIAC offers a number of free services through our Web site: searchable bibliographic databases, industry directories, an open-discussion forum, an RMQSI calendar, and our quarterly technical journal. By phone or through our Web site, we offer customers up to four hours of free specialized support and respond to more than 1,500 inquiries each year.

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